# Phonetics & Phonology @ UC San Diego

# February 2022

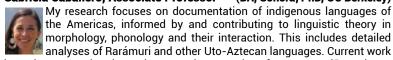
#### Eric Baković, Professor

#### (BA, UC Santa Cruz; PhD, Rutgers) Ben Lang, 2nd-year grad

My recent work investigates the relations between phonological maps, queries the typological predictions of Optimality Theory and Harmonic Grammar, and determines the computational expressivity required to describe phonological patterns. A collaboration with

researchers in Linguistics and Computer Science aims to build a tool that will data science, and I use a variety of methods (behavioral, MEG, MRI) to investiinfer phonological grammars from data.

#### Gabriela Caballero, Associate Professor (BA, Sonora; PhD, UC Berkeley)



investigates tonal and morphosyntactic properties of San Juan Piñas Mixtec. I am especially interested in developing resources that serve both academic linguists and indigenous communities.

#### Yuan Chai. ABD grad (BA, Beijing Normal University; MA, CU Boulder)



My research interests are in phonetics and fieldwork. I study checked tone, investigating what features are essential for its production and perception. I also study the tone sandhi system in Xiapu Min and how coarticulation affects the voice quality of Mandarin tones.

#### Nese Demir, ABD grad

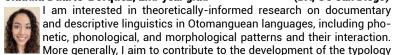
### (BA, METU; MA, Syracuse University)



My research areas are phonology, morphology, and the interface between the two. I have worked on partial reduplication in Turkish. My recent projects include examining/modeling the patterns of vowel harmony in the Black Sea Region of Turkey (specifically the Laz dialect), and describing possessive tone patters in Rere.

#### Claudia Duarte-Borquez, 2nd-year grad

# (BA, UC San Diego)



of tone and our understanding of the interaction between grammatical and lexical tone.

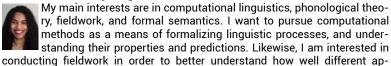
### Marc Garellek, Professor

# (BA, McGill; PhD, UCLA)



My interests are in phonetics and laboratory phonology, especially of laryngeal sounds. My work has led to detailed phonetic analyses of diverse languages including Malayalam, Mazatec, Hmong, Tongan, and Yi. I frequently collaborate with electrical engineers and speech-language pathologists, and enjoy working with those interested in applying a

quantitative analysis of speech to a broad range of scientific questions. Olivia Griffin, 2nd-year grad



proaches model natural language.

#### Yaqian Huang, ABD grad

#### (BA, UIBE; MA, U of Delaware)

My research lies in the articulation, acoustics, and perception of voice quality. I investigate the role of phonation cues in tone languages. Current projects include the voice quality in coarticulated tones, period doubling as a non-modal voice quality

attribute in natural speech, and documenting Hengyang. I'm also interested in the neural underpinnings of speech and voice.

#### Ray Huaute, 4th-year grad (BA, UC Riverside; MA, U of Arizona)



Miyaxwen! (hello!) My main research interests are in the areas of phonology, morphology, language acquisition, language documentation and description, and language reclamation. My current research focuses on stress assignment in Cahuilla, an under-documented Uto-

Aztecan language. I am also a Cahuilla community member, language instructor and second-language speaker of Cahuilla.

# Nina Hagen Kaldhol, 4th-year grad

(BA, MPhil, U of Oslo)

My research is focused on tone, grammatical tone, and tone-morphology interactions, and also includes work on compounding, gender, grammaticalization, loanword adaptations, and bilingualism. I work with native speakers of Somali, Rere (aka.Koalib), and Tira.

(BA. MA. NYU)



My research interests are in phonetics and neurolinguistics: acoustic and articulatory speech production and the neural bases of speech perception in monolinguals, bilinguals, and language learners. My research intersects with auditory neuroscience, cognitive science, and

gate speech and bilingualism.

#### Anna Mai. ABD grad

#### (BA, Washington University in St. Louis)



I study the mathematical foundations of phonological formalisms and the neural encoding of speech sounds. Current projects include an algebraic characterization of harmonic grammars and an ECoG study investigating the neural representation of contrast and neutralization.

#### Milad Mayel, 2nd-year grad

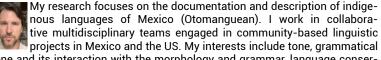
### (BA, M.Ed., UC San Diego)



My interests are primarily concentrated in the interface of prosody and pragmatics. Currently, I am investigating the nature of accented pronouns and related phenomena. I have a background in bilingual education and translanguaging practices.

#### Justin D. McIntosh, Lecturer

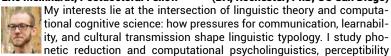
#### (BA, Evergreen; MA, PhD, UT Austin)



tone and its interaction with the morphology and grammar, language conservation, archiving, and creating digital corpora for linguists and speakers.

#### Eric Meinhardt, Postdoctoral Fellow

# (BA, Rochester; PhD, UC San Diego)



effects and phonotactics, and 'complexity' in (morpho-)phonology and its relation to learnability and transmission.

# Shai Nielson, 3rd year grad

#### (BA, UC Davis)



My research focuses on the acquisition, development, and processing of signed language phonology and phonetics. I use behavioral experiments and neuroimaging to examine how people who are born deaf and don't acquire ASL until after childhood organize and process

phonology in their eventual signed language. I am also working on a crosslinguistic phonological typology of signed languages.

# **Sharon Rose, Professor**

#### (BA, Toronto; MA, UQAM; PhD, McGill)



My interests are in phonology and its interaction with morphology and phonetics. I work primarily on harmony and tone in African languages, based on primary data collection. I am currently working on grammatical tone in Rere and Tira, and the perception of ATR contrasts by

Akan speakers.

# Mark Simmons, 1st year grad



My research interests are in fieldwork and historical phonology. I have studied the development of tone and laryngeal phonation in the Naduhup language family of Brazil. I have also worked on the acoustics of vowels in Nadeb, a language of this family. I am current-

ly engaged in remote fieldwork on Tira, focusing on verbal morphology.

### Anthony Struthers-Young, 2nd year grad



My primary interests are in documentation and phonology, especially tonal phonology and other suprasegmental features. I have done extensive fieldwork in southwest Burkina Faso on the Toussian languages, where, I also study the Toussian musical surrogate language,

a way to encode speech using the balafon, a type of xylophone.

# Will Styler, Assistant Teaching Professor

# (BA, MA, Ph.D, CU Boulder)

I work in computational approaches to phonetics, speech perception, and natural language processing (NLP). I use computational models to better understand perception and production of speech and suprasegmentals', but in NLP, similar problems of extracting linguis-

tic signal from noisy data apply. I love collaborating on data-focused or computational work, and detailed analysis of speech and speech perception.

### Maxine Van Doren, 4th-year grad

### (BA, UCLA; MS, Boston University)



I have a clinical background in speech and voice disorders. My primary research interests are in voice quality. My dissertation focuses on differences in creaky voice quality between typical and dysphonic

# Funding (2020 - present)

- E. Baković, L. Bergen, N. Polikarpova. 2020-24. SYPHON: A Framework for Automated Phonological Reasoning. NSF BCS #2021149 (\$402,572)
- E. Baković, O. Griffin. 2021. The relationship between form and meaning in language. UCSD Academic Senate Research Grant (\$8,500).
- S. Creel, M. Garellek, W. Styler. 2021-24. Self-comprehension as a window on preception-production relationships. NSF BCS #2048381 (\$403,727).
- N. Demir. 2020. UCSD Int'l Institute Fellowship (\$2K)
- C. Duarte Bórquez. 2020-25. UCSD SEED F'ship (\$75K).
- M. Garellek. 2020. Towards a new psychoacoustic model of the human voice. Social Sciences Research Grant (\$24,968).
- M. Garellek, Y. Huang. 2022-23 (pending). Phonetics of period doubling. NSF DDRI BCS-2141433 (\$18845).
- O. Griffin. 2020. Canada Tri-Council NSERC Grant (\$5625).
- Y. Huang. 2020-21. UCSD Int'l Institute F'ship (\$2100).
- R. Huaute. 2019-22. ELDP Lang. Documentation Grant (\$7500).
- N. H. Kaldhol. 2020-21. Friends of International Center Fellowship (\$2K).
- N. H. Kaldhol. 2020-22. ASF/NORAM Graduate Scholarship (\$20K/year).
- S. Rose, M. Obiri-Yeboah. 2020. Vowel Perception in a Ghanaian language. Academic Senate Research Grant (\$15,000).
- M. Obiri-Yeboah. 2020-21. Mellon/ACLS Dissertation Fellowship (\$43K).
- M. Simmons. 2021-26. UCSD Cota-Robles Fellowship
- A. Struthers-Young. 2020-25. UCSD Katzin Prize (\$50K).
- M. Van Doren. 2018-23. DSS Jacobs Fellowship (\$60K).
- S. Wray, B. Lang, O. Abdullah, P. Paterson, Z. Hermes, A. Marantz. 2020 Lisaaniyat: A real-time MRI collection of Arabic speech in motion (\$82,000).

#### Publications (2020 - under review)

- A. Akinlabi, M. Cahill, M. Diercks, L Downing, J. Essegbey, K. Franich, L. McPherson, S. Rose. (eds.) 2021. Selected Papers from the 50th ACAL.
- E. Baković, A. Mai. 2021. Comparing positional licensing patterns in HG and OT. Supp. Proc. AMP 2020.
- E. Baković, J. Heinz, J. Rawski. 2022. Abstractness in the mental lexicon. In press, Oxford Handbook of the Mental Lexicon.
- A. Bashir, S. Rose. Vowel harmony in Niger-Congo languages: The Languages of the Nuba Mountains. To appear, Handbook of Vowel Harmony.
- G. Caballero, Y. Chai, M. Garellek. Stress, tone, and intonation in Choguita Rarámuri. To appear, Prosody and Prosodic Interfaces, Oxford.
- G. Caballero, V. Kapatsinski. How agglutinative? Searching for cues to meaning in Choguita Rarámuri (Tarahumara) using an amorphous model. To appear, Morphological Typology and Linguistic Cognition.
- G. Caballero, S. Fuentes Holguín, B. Fuentes Loya. Choguita Rarámuri (Tarahumara): Cho'maa Ko'aame. 2021 Texts in the Indigenous Languages of the Americas - IJAL.
- G. Caballero, Q. Cheng. 2020. Person marking in Ja'a Kumiai (Yuman). Amerindia 42.
- G. Caballero, A. German. 2021. Grammatical tone patterns in Choguita Rarámuri (Tarahumara). IJAL.
- G. Caballero, M. Gordon. 2021. Prosody in North American Indian Languages. Oxford Handbook of Language Prosody.
- Y. Chai, S. Ye. Checked syllables, checked tones, and tone sandhi in Xiapu Min. Languages. Under review
- Y. Chai, T. Kunda, A. Rodríguez, S. Rose. The prosody of declaratives and questions in Rere. To appear, Prosody and Prosodic Interfaces.
- N. Demir. Vowel harmony in Trabzon Turkish. To appear. Proc. TU+5.
- N. Demir. Vowel harmony in Laz Turkish: A case study in Ig. contact and Ig. change. To appear, Linguistics Vanguard.
- M. Garellek. 2020. Phonetics and phonology of schwa insertion in Central Yiddish. Glossa 5.
- M. Garellek. 2020. Acoustic discriminability of the complex phonation system in !Xóo. Phonetica 77
- M. Garellek, M., Y. Chai, Y. Huang, M. Van Doren. 2021. Voicing of glottal consonants and non-modal vowels. JIPA
- M. Garellek, & C. M. Esposito. 2021. Phonetics of White Hmong vowel and tonal contrasts. JIPA.
- M. Garellek, & M. Tabain. 2020. Tongan. JIPA.
- M. Garellek, M. Gordon, J. Kirby, W.-S. Lee, A. Michaud, C. Mooshammer, O. Niebuhr, D. Recasens, T. B. Roettger, A. Simpson, K. Yu. 2020. Toward open data policies in phonetics: What we can gain and how we can avoid pitfalls. Journal of Speech Sciences 9.
- H. Hassen, N.H. Kaldhol, S. Rose. 2021. Tira verbal participant marking: the role of tone. Proc. ACAL 51-52.
- Y. Huang. F0 and voice quality of coarticulated Mandarin tones. Under revision, Language and Speech.
- Y. Huang. Articulatory properties of period-doubled voice in Mandarin. To appear. Proc. Speech Prosody 2022.

- Y. Huang. 2021. Phonetic and phonological analysis of the Rere vowel height system. Proc. ACAL 51-52.
- Y. Huang. 2020. Different Attributes of Creaky Voice Distinctly Affect Mandarin Tonal Perception. JASA.
- R. Huaute. A preliminary intonational model of Torres-Martinez Desert Cahuilla. To appear, Proc. 11th Int'l Conference on Speech Prosody.
- N.H. Kaldhol. 2021. Gender and headedness in nominal compounds in Somali, Proc. ACAL 50.
- N. H. Kaldhol, S. Stausland Johnsen. There is no 'one High tone per word' rule in Somali. To appear, Synchronic and diachronic aspects of tonal accent.
- J. Kreiman, J., Y. Lee, M. Garellek, R. Samlan, B. R. Gerratt. 2021. Validating a psychoacoustic model of voice quality. JASA.
- J. Krivokapic, W. Styler, D. Byrd. 2022. The role of speech planning in the articulation of pauses. JASA
- J. Krivokapic, W. Styler, B. Parrell. 2020. Pause Postures: The relationship between articulation and cognitive processes during pauses. JPhon 79.
- Y. Lee, M. Garellek, C. Esposito & J. Kreiman. A cross-linguistic investigation of acoustic voice spaces. ASA
- A. Mai. 2020. Phonetic effects of onset complexity on the English syllable. LabPhon 11.
- A. Mai, E. Baković. 2020. Cumulative constraint interaction and the equalizer of HG and OT. Supp. Proc. AMP 2019.
- A. G. McCollum, E. Baković, A. Mai, E. Meinhardt. 2020. Unbounded circumambient patterns in segmental phonology. Phonology 37.
- E. Meinhardt, A. Mai. E. Baković, A. G. McCollum. On the proper treatment of weak determinism: subsequentiality and simultaneous application in phonological maps. Under revision, NLLT.
- E. Meinhardt, E. Baković, L. Bergen. 2020. Speakers enhance contextually confusable words. Proc. ACL 58.
- S. Myers, M. Obiri-Yeboah, K. De Jong, K. Berkson. Tongue root contrasts in Gua: evidence from articulatory imaging. To appear, Indiana WP on Speech Sound Articulation.
- A. Naser, S. Rose. 2020. Ideophones in Moro. Faits de Langues.
- I. Nip, & M. Garellek. 2021. Voice quality of children with cerebral palsy. Journal of Speech, Language, and Hearing Research.
- M. Obiri-Yeboah. 2020. Tone Melody and TMA Marking in Gua. Proc. 30th West African Languages Congress.
- M. Obiri-Yeboah, S. Rose. 2021. Vowel Harmony and Phonological Phrasing in Gua. NLLT.
- T. Sainburg, A. Mai, T. Gentner. Long-range sequential dependencies are phylogenetically pervasive in behavior and precede complex syntactic production in language. Under review.
- S. Seyfarth, M. Garellek. 2020. Physical and phonological causes of coda /t/ glottalization in the mainstream American English of central Ohio. LabPhon 11.
- A Struthers-Young. A Preliminary Account of the Northern Toussian Balafon Surrogate Language. To appear, Frontiers in Communication.

#### -----Presentations (2020 - upcoming)

- E. Baković, A. Mai. 2020. Comparing positional licensing patterns in HG and OT. AMP 2020.
- E. Baković, L. Blumenfeld. 2019. A typology of map interactions. Biggs Lecture, Washington University.
- E. Baković, A. Mai. 2020. Comparing grammars in the equalizer of OT and HG. SOTA IV.
- G. Caballero. 2021. Templatic effects in Choguita Rarámuri outwardly conditioned allomorphy. Invited talk, 5th AIMM.
- G. Caballero. 2021. The interaction between lexical and grammatical tone in San Juan Piñas Mixtec (Tò'òn Ndā'ví). Invited talk. University of Leipzig
- G. Caballero. 2021.Lexical-grammatical tone interactions in San Juan Piñas Mixtec: phonological representation and orthographic implications. UC Berkeley colloquium.
- G. Caballero. 2021. Tonal exponence and lexical-grammatical tone interactions in San Juan Piñas Mixtec. Princeton Phonology Forum (PΦF)
- G. Caballero, C. Juárez-Chávez & M. Yuan. 2021. The representation of tone in San Juan Piñas Mixtec: Phonological and orthographic implications. WCCFL 39.
- C. Duarte Borquez, C. Juárez Chávez. 2022. The representation of tone in San Juan Piñas Mixtec: the role of underspecification. SSILA
- Y. Chai, S. Ye. 2022. Perception of checked tones in Xiapu Min. 181st Meeting of the ASA (winner of Best Paper in Speech Communication).
- S. Creel, M Obiri-Yeboah & S. Rose. 2021. Tone language-to-music transfer effects do not appear in Akan. 16th International Conference on Music Perception and Cognition.
- N. Demir. 2021. Grammatical tone interaction in Rere possessives. ACAL 51-52
- N. Demir. 2020. Vowel Harmony in Trabzon Turkish. TU+5.
- M. Garellek. 2020. Reconsidering voicing during glottal sounds. Invited talk,
- M. Garellek. 2020. Acoustic analysis of complex phonation contrasts: The case of !Xóõ (Taa). Invited talk, Indiana University.

- M. Garellek. 2020. What Illustrations of the IPA can teach us about voicing and glottal sounds. Invited talk, La Trobe University.
- M. Garellek. 2020. Toward a two-source theory of interactions between voicing and phonation type. Invited talk, UCLA Phonetics Seminar.
- Y. Huang. 2022. Articulatory properties of period-doubled voice in Mandarin. Speech Prosody 2022.
- Y. Huang. 2021. Does Rere have vowel harmony? ACAL 51-52.
- Y. Huang, Y. Chai. 2020. F0 and Voice Quality of Coarticulated Mandarin Tones, LabPhon 17.
- R. Huaute.. upcoming. A preliminary intonational model of Torres-Martinez Desert Cahuilla. 11th International Conference on Speech Prosody.
- R. Huaute. 2022. The intonational structure of Torres-Martinez Desert Cahuilla. SSILA.
- R. Huaute & A. Tsikewa. 2022. Building Capacity of Indigenous Language Warriors through Peer Mentoring. LSA 96. R. Huaute, G. Caballero. 2020. Reduplication and syncope in Cahuilla
- distributive verbs. SSILA. N. H. Kaldhol, S. Stausland Johnsen. 2021. Grammaticalization in Somali
- and the development of morphological tone. LSA 95. N. H. Kaldhol, B. Köhnlein. 2020. North Germanic Tonal Accent is Equipol-
- lent and Metrical: Evidence from Compounding. AMP 2020. N. H. Kaldhol, S. Stausland Johnsen. 2020. Grammaticalization in Somali and the shaping of prosodic types. SLE 2020.
- J. Krivokapic, W. Styler, D. Byrd. 2020. The role of speech planning in the articulation of pause postures. 12th Int'l Seminar on Speech Production.
- A. Mai. 2020. Language-specific phonological contrast and neutralization: an intracranial EEG study. SNL 2020.
- A. Mai, E. Baković. 2020. Syncretic typologies. SOTA IV.
- E. Meinhardt, E. Baković, L. Bergen. 2020. Speakers enhance contextually confusable words. ACL 58.
- E. Meinhardt, A. Mai, E. Baković, A. G. McCollum. 2020. Questioning to Resolve Transduction Problems. SCiL 2020.
- S. Nielson & R. Mayberry, 2021. Late First Language Acquisition Alters the Phonological System of ASL. BUCLD 46.
- S. Rose. 2021. Grammatical tone and person marking in Rere. LingLab Colloquium, International Christian University, Tokyo.
- S. Rose. 2020. Tone patterns of object-marked verbs in Rere. 50th CALL.
- T. Sainburg, A. Mai, T. Gentner. 2020. Long-range sequential dependencies precede syntactically-rich vocalizations in humans. SNL 2020.
- M. Simmons. 2022. Word-final Voicing in Nadëb. LSA 96.
- A Struthers-Young. 2021. Same subject reference in Northern Toussian. WOCAL 10.
- A. Struthers-Young. 2021. Multiple exponence of nasality in Northern Toussian. ACAL 51-52.
- A Struthers-Young. 2021. Multiple Exponence in Northern Toussian. MultEx@Zas
- W. Styler. 2020. Specialized skills and tools for remote linguistics instruction. Invited talk, University of Michigan.
- W. Styler. 2020. Computational Phonetics. Keynote, CSU Fullerton Linguistics Symposium on Computational Ling.
- T. Zamuner, J. Bacon, O. Griffin. 2020. Influences of Expressive Vocabulary and Phonological Priming on Children's Speech Production. Psychoshorts 2020.

#### Recent Alumni (2016 - present)

Michael Obiri-Yeboah, PhD 2021 Phonetics and Phonology of Gua.

(S. Rose) Asst. Teaching Prof. Dept. of Linguistics, Georgetown U. Dissertation:

Andrés Aquilar, PhD 2020 (G. Caballero, M. Garellek) Asst. Prof., Dept. of Chicana & Chicano Studies, SDSU. Dissertation:

Phonology and phonetics of laryngeal sounds in Chicontepec Nahuatl.

Katherine Hout, PhD 2020 Computaional Linguist, LinkedIn. Dissertation: Conspiratorial exceptionality: A case study of Mushunguli.

Eric Meinhardt, PhD 2021 (L. Bergen, E. Baković) Postdoctoarl researrcher, Linguistics Dept. UC San Diego. Dissertation: Communicative pressures in phonetics and phonology.

Adam G. McCollum, PhD 2019

(S. Rose) Asst. Prof., Dept. of Linguistics, Rutgers Univ. Dissertation: Gradience and locality in phonology: Case studies from Turkic vowel harmony.

Hope Morgan, PhD 2017 (R. Mayberry, S. Rose) Marie Curie postdoctoral fellow, Leiden University. Dissertation: The Phonology of Kenyan Sign Language (Southwestern Dialect).

Scott Sevfarth PhD 2016 (F. Ackerman, M. Garellek) Language Engineer, Amazon. Dissertation: Contextual and Morphological

Effects in Speech Production. Page Piccinini, PhD 2016

(M. Garellek) Data Science Manager, Stripe, San Francisco. Dissertation: Cross-language Activation and the Phonetics of Code-switching.